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basic imagery interpretation report

Severodvinsk Interferometer (S)

MISSILE RANGES: NAVAL LAUNCHED FACLITIES

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USSR

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Z-14545/82
RCA-17/0001/82
APRIL 1982
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INSTALLATION OR ACTIVITY NAME					COUNTRY
Severodvinsk Interferometer					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
—	64-28-56N 039-43-09E				

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MAP REFERENCE

DMA. USATC, Series 200, Sheet 0092-22, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)

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ABSTRACT

1. (S/D) This is the initial NPIC basic report on the interferometer which in November 1981 was in the late stages of construction in the Northern Fleet Missile Test Center (NFMTC) at Severodvinsk, USSR. The report covers the period from The latest available imagery was acquired on The report contains six annotated photographs, one line drawing, and three mensural tables.

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INTRODUCTION

2. (S/D) Construction of the Severodvinsk Interferometer began between The facility was the sixth VT-3-type (Bow and Arrow) interferometer observed in the Soviet Union. A seventh has since been identified under construction at Barnaul Space Tracking Facility (BE . The two newest interferometers incorporate modifications previously made to the five older VT-3 facilities.

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3. (S/D) The Severodvinsk Interferometer is 4 nautical miles (nm) south-southwest of the NFMTC Headquarters in Severodvinsk (Figure 1) and 16 nm southeast of the Nenoksa Naval Missile Test Center The location is well situated for monitoring submarine-launched ballistic missile (SLBM) tests from both Nenoksa and the White Sea. The facility consists of an operations area (the Bow and Arrow), extended baseline positions, a support area, and a construction support camp (Figure 2). The construction support camp is temporary and will probably be removed when construction is complete.

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BASIC DESCRIPTION

Operations Area

4. (S/D) The operations area consists of a plus-shaped interferometer (Arrow), rate and range antennas (Bow), an antenna control building, ten antenna buildings, and other support buildings (Figure 3).

5. (S/D) Each of the ten antenna buildings (items A-1 through A-10, Figure 3 and inset table) consists of a main section and a slightly higher antenna section. A circular, opening for an antenna position is centered on the roof of each antenna section. Two probable antenna platforms (items 1a and 1b) are located on the antenna control building roof (item 1) . All ten antenna buildings and the antenna control building are interconnected by aboveground corridors. These corridors carry the cables that link the antenna buildings to the control building. Since no utility lines to any of the antenna buildings have been observed under construction, these corridors probably also carry utilities. Protrusions long and approximately 60 meters apart (not illustrated) along the corridor from the control building to building A-1 may accommodate the U-shaped bends of steamlines.

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6. (S/D) The interferometer portion of the area consists of a central antenna building (item A-1) at 64-29-16N 039-43-55E and five other antenna buildings (items A-2 through A-6). By October 1980, two vertical cylinders (Figure 4) had been erected in the area between buildings A-4 and A-5. These cylinders are probably used for either survey or calibration. Two probable survey towers were subsequently erected at the interferometer. The 4-meter difference in the heights of the two towers (items 6 and 7, Figure 3) suggests that one was still under construction when last seen.

7. (S/D) A vertical cylinder similar to the two at the interferometer was erected in the area east-southeast of the control building (Figure 5). A probable survey tower was erected between antenna buildings A-7 and A-8 and between buildings A-9 and A-10 between June and November 1981. Construction observed near each probable survey tower may be a base for an additional tower.

8. (S/D) Foundations for calibration towers have been constructed north and east of the interferometer (items C-1 and C-2, figure 3). Additional positions have been constructed for calibration towers at each end of the Bow (items C-3 through C-6). Rows of stanchions lead from each foundation site to the nearest antenna building.

9. (S/D) Between August and October 1981, a 26-meter-high lattice tower (item 5, Figure 3) had been assembled in the operations area. By November, the tower was erected on a foundation at the end of a row of stanchions leading to the antenna control building (inset, figure 5). These stanchions had been emplaced in June 1980.

Extended Baseline Positions

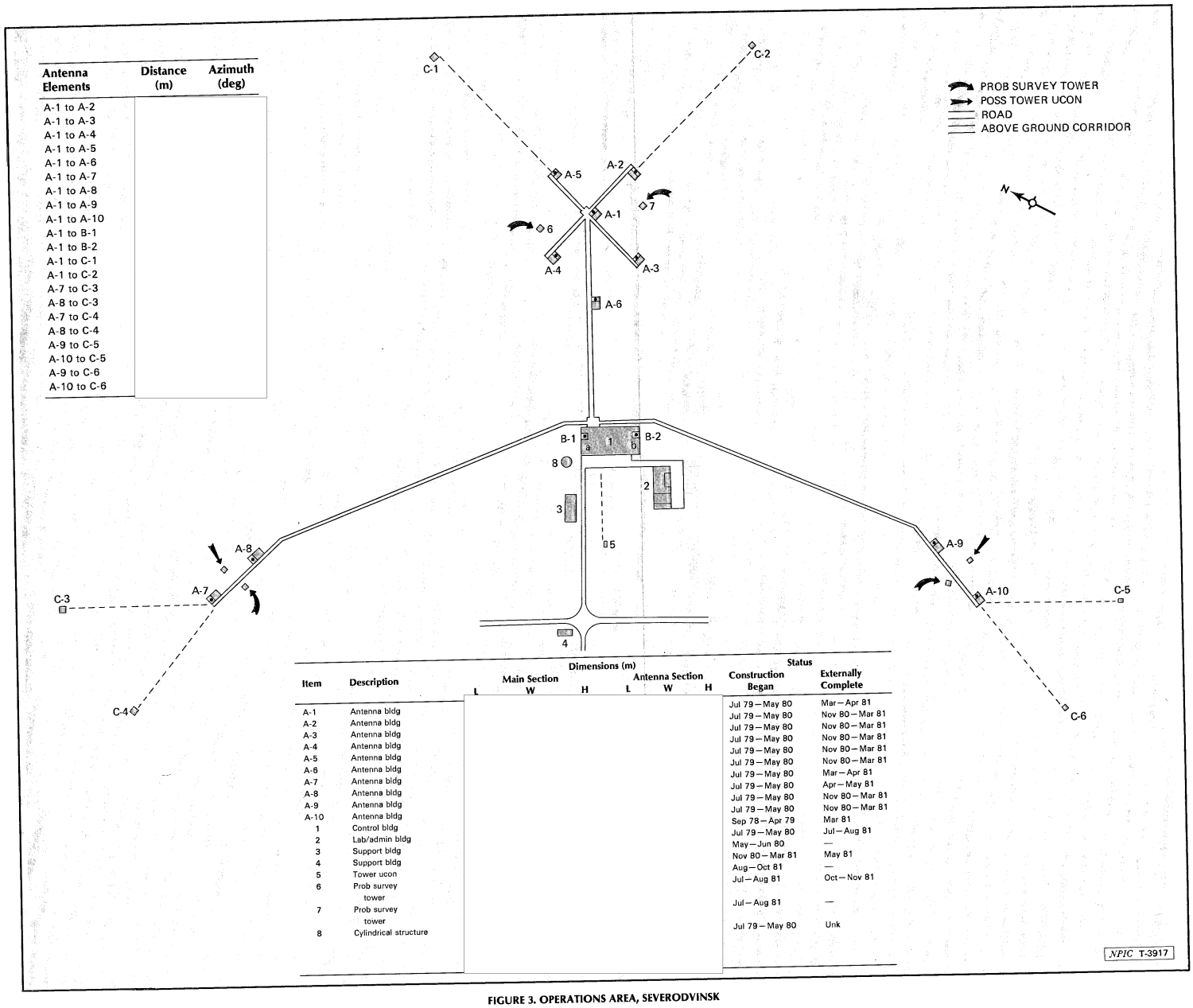
10. (S/D) By July 1980, construction had begun on four extended baseline positions (Figures 1 and 6). Buildings were under construction at the east, west, and south positions, and grading was observed at the north position. By late 1981, the south and west buildings were in the late stages of construction. The east building was in the midstage of construction and only footings were visible at the north position. Each of the buildings at these three extended baseline positions is [redacted] 25X1 meter opening for an antenna pedestal is centered on the long edge of each building's roof, facing the interferometer. The following table shows the distance and azimuth from position A-1 to each baseline position.

Extended Baseline Position	Distance from A-1 (m)	Azimuth from A-1 (deg)
North	5,191	[redacted] 25X1
South	5,496	
East	5,850	
West	5,906	

11. (S/D) The reason for the slow pace of construction at the north position is not known. This position is unique in that it is the only one of the four to be connected by cable to the interferometer. Cable installation began soon after construction was first observed at the four positions in 1980. In early 1981, construction began on another building closer to the interferometer and near the cable trenches. Although this building appears to have been connected to the cable trenches and is externally complete, there is no antenna position on the roof. The lack of an antenna position indicates that this building is not an extended baseline position and that the original location under construction is intended for the north position.

Support Area

12. (S/D) By November 1981, eight buildings were either complete or under construction in the support area southwest of the operations area (Figure 7). Other than the steamplant (Figure 7), specific functions have yet to be associated with the buildings. However, the location of building 1 indicates that its function may require isolation and/or additional security.



Antenna Elements	Distance (m)	Azimuth (deg)
A-1 to A-2		
A-1 to A-3		
A-1 to A-4		
A-1 to A-5		
A-1 to A-6		
A-1 to A-7		
A-1 to A-8		
A-1 to A-9		
A-1 to A-10		
A-1 to B-1		
A-1 to B-2		
A-1 to C-1		
A-1 to C-2		
A-7 to C-3		
A-8 to C-3		
A-7 to C-4		
A-8 to C-4		
A-9 to C-5		
A-10 to C-5		
A-9 to C-6		
A-10 to C-6		

Item	Description	Dimensions (m) Main Section L	W	H	Antenna Section L	W	H	Status Construction Began	Externally Complete
A-1	Antenna bldg							Jul 79 – May 80	Mar – Apr 81
A-2	Antenna bldg							Jul 79 – May 80	Nov 80 – Mar 81
A-3	Antenna bldg							Jul 79 – May 80	Nov 80 – Mar 81
A-4	Antenna bldg							Jul 79 – May 80	Nov 80 – Mar 81
A-5	Antenna bldg							Jul 79 – May 80	Nov 80 – Mar 81
A-6	Antenna bldg							Jul 79 – May 80	Nov 80 – Mar 81
A-7	Antenna bldg							Jul 79 – May 80	Mar – Apr 81
A-8	Antenna bldg							Jul 79 – May 80	Apr – May 81
A-9	Antenna bldg							Jul 79 – May 80	Nov 80 – Mar 81
A-10	Antenna bldg							Jul 79 – May 80	Nov 80 – Mar 81
1	Control bldg							Sep 78 – Apr 79	Mar 81
2	Lab/admin bldg							Jul 79 – May 80	Jul – Aug 81
3	Support bldg							May – Jun 80	—
4	Support bldg							Nov 80 – Mar 81	May 81
5	Tower ucon							Aug – Oct 81	—
6	Prob survey tower							Jul – Aug 81	Oct – Nov 81
7	Prob survey tower							Jul – Aug 81	—
8	Cylindrical structure							Jul 79 – May 80	Unk

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FIGURE 3. OPERATIONS AREA, SEVERODVINSK

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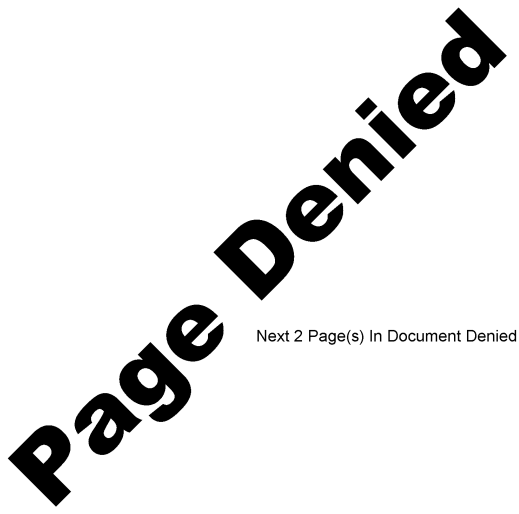

Next 2 Page(s) In Document Denied

REFERENCES

IMAGERY

(S/D) All applicable satellite imagery acquired through [redacted] the information cutoff date, was used in the preparation of this report. The latest usable imagery was acquired on [redacted] 25X1 25X1

MAPS OR CHARTS

DMA. US Air Target Chart, Series 200, Sheet 0092-22, scale 1:200,000 (UNCLASSIFIED)

RELATED DOCUMENTS

NPIC. [redacted] PIR-007/79, Mar 79 (TOP SECRET [redacted] 25X1 25X1

REQUIREMENT

COMIREX R02
Project 542036R

Distribution 86-010
(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC, [redacted] 25X1 25X1

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